

LOADSTAR[®]

LETTER

\$1.00 ○ June 1996 ○ Issue #35

"...before we Internet surfers cry foul over the censors, maybe we should try acting more responsibly..."

see page two

More SuperCPU Notes



By Jeff Jones. The SuperCPU has been plugged into many LOADSTAR computers in the past months. It's sort of anti-climactic to report that there is little to report. The cartridge makes everything run faster. Works like a breeze. I know that I hate to give CMD non-reports when they're actively looking for bugs to squash, but under normal use, the accelerator

seems rock solid.

Our version of the accelerator won't work with GEOS yet, but I've read in newsletters that others have had the time to patch it using the information supplied by CMD, and that GEOS screams. They reported spell-checking a document in 11 seconds. Doing anything in GEOS in 11 seconds is revolutionary.

I've long hated the way TWS and SpeedScript scroll and show you every word they change when you use a search and replace. Know what I mean? You want to change every instance of

[quote][period] to [period] [quote]. Well SpeedScript and TWS will show to every instance of a change before it makes it. So a process that might take two seconds might take 30 seconds on a large file because it must scroll all the way through it. Well, today I watched TWS fly through changes in a large text file that would have normally taken a while to process. Now, even with the scroll, The changes in a 30K file take an instant. the screen races by in a blur.

The only real trouble we had was with a 128D that had a hard time reading its RETURN key with the accelerator enabled. We called CMD and it's fixed

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JBEE Is Out, CMD Is In at GENie

Rumors abound as to the cause, but John Brown, owner of Parsec, is no longer sysop of GENie's Commodore Roundtable. Whether he was ousted by GENie management or left of his own accord is also murky.

A source close to LOADSTAR reported that John Brown has looked into starting his own Internet service, which may have lead to a conflict of interest.

CMD was invited to take over, and will take the floundering GENie up on their offer. LOADSTAR has been invited to resume its presence at GENie and will do so as soon as all the paperwork is done.

As has been reported, Jeff Jones has been barred for years from the GENie Commodore roundtable by JBEE, after a not-so-simple misunderstanding.

As PC users continue flee GENie for pure Internet services after GENie raised its rates, perhaps GENie will cater more to C-64 types who remain. CMD seems to be single-handedly revitalizing the Commodore Community. Let's wish them luck on GENie.

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Anatomy Of An Internet Site

by Rick Nash, C-64 programmer and ML teacher extraordinaire. Jeff's foreword: Rick first came to LOADSTAR in 1988 with X-ref, a BASIC cross-referencing utility. Since then he's written a long list of programs, languages,

debuggers, articles and is most remembered for his ML tutorial series, ML 101 through ML 401, published on LOADSTAR, and in the Compleat programmer. Rick has been programming 6510 code, both for the C-64 and for wheelchair controller apparatus

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A Few Words On Internet Free Speech

Yesterday a Philadelphia Federal court struck a blow to the Communications Decency Act, otherwise known as the smut Bill. All around the net people are cheering the ruling. Here's what a few other people had to say about net censorship.

Bill Gates: The Internet is the first medium that allows anyone with reasonably inexpensive equipment to publish to a wide audience.

Rose Stasuk: The Internet is the one place that I can self-publish without the art market infrastructure's help.

Philippe Kahn: For

Centuries our people have been the victims of intolerance. The price of our freedom is the burden of having to accept the worst in public expression. For he who starts censorship will never know where and when to stop.

Phillip Suh: I never met my other grandfather. He was a preacher in North Korea. The communists thought he was saying something indecent, bad for the public health. So one day they came and bound him and his oldest son and blindfolded them and stood

them by a ditch, so that when they shot my grandfather they wouldn't have to bother with carrying him into a grave.

Caleb John Clark: We're the hippies of the nineties, man! Technology is our drug, money our sex. Our "free love" is "global communication". Like the hippies, we've got the right message, but the public sees us as a group of totally irresponsible freaks ranting and raving. Source: <http://www.eff.org/blueribbon.html>
Highly recommended.



Decency Act, No. Decency, Yes!



By Jeff Jones. Maybe there is hope for us yet. Bad law has been written by people seeking to appear holy, and signed by a President who was afraid to say no to bad law because it might *appear* that he was saying yes to obscenity. Luckily the courts have limited power to block the birthing pains of re-election — *bad law*. Every two- four- and six-year cycle, our representatives, in spectacular testosterone fests, try to prove to us that they are:

first, holier than the opposition, second, for law & order, and third, *protecting our children*. You couldn't have a decent witch hunt without *that* chant.

Most bad law is written in the name of protecting children. Every election our representatives write tougher laws. America is so "decent" now that we have more people in jail than any other nation in the world. In Shreveport we recently opened a jail that was *full* before it opened. We have a clogged justice system precisely because we round up people by the millions and toss hundreds of thousands into jails and

throw away the key. Trouble is, we don't do that to murderers, robbers and rapists. Yet we have "wars" against "sick" (naughty) people who don't know any better. We'll write tougher laws for them than murderers. We'll limit our *own* rights to make it easier to get *them*. No parole. Give *them* pre-determined mandatory sentences. Meanwhile predators like murderer of Polly Claas enjoy the parole system which *should* be used for the *non-violent* offenders we're locking up like mad.

To make a point I just

(Continued on page 4)

Anatomy Continued...

(Continued from page 1)

for a decade now. Rick is a true veteran, and, frankly, knows everything. He's my idea of a guru. Here's Rick's less-than-pleasurable adventure in telecommunications:

I had this silly idea that I wanted to start an Internet company in our small town, Millersburg Ohio. If you've been thinking of starting an Internet provider service, I'd say go for it, but be ready for delays and problems that aren't

your fault. Over estimate the cost and the time for everything you do, and everything will work out.

I told myself in the beginning that I had run a bulletin board for more than five years, how hard could it be? What followed was a whirlwind course in wide area networking. I guessed that the most expensive cost would be the pipeline to the Internet, and I was right. Initially I thought that a 56K data line would be

sufficient. However, it turns out that 56k equipment is not upgradable. If our requirements grew, we'd be stuck with hardware that'd be useless. Next I looked into a T1 data line. Now we're cooking! more than 24 times as fast as a 56k line, but what a cost! It turns out that a T1 line consists of twenty-four 64K channels. The phone company will sell less than a full T1, usually in pairs of 64K

(Continued on page 3)

Q: Why do programmers always get Christmas and Halloween mixed up?

A: Because DEC 25 = OCT 31

Q: Did you hear about the Microsoft crystal ball?

A: Ask it something and it tells. Answer unclear. Add 20 Mbs of RAM and ask again later.

Q: How many MS engineers does it take to screw in a light bulb?

A: None, they just define darkness as an industry standard.

Q: What do you get when you cross 200K of people and lots of garbage?

A: A cars dump

Have you heard about the new Gray? It's so fast, it executes an infinite loop in a seconds.

Have you heard about the new Gray? It's so fast, it requires TW@ half instructions to stop it!

Imagine that Gray computer decides to design a personal computer. It has a 150 Mhz processor, 200 megabytes of RAM, 1500 megabytes of disk storage, a screen resolution of 1024x1024 pixels, relies entirely on voice recognition for input, fits in your shirt pocket, and costs \$300.

What's the first question that the computer community asks?

Is it PC compatible?

SuperCPU Continued..

(Continued from page 1)
already.

I also had a hard time converting a file from PetASCII to Screen code in TWS. Apparently I can't release the CRTL-A fast enough. It thinks I want to convert ASCII. If I had a half second to release the key before, now I have 1/40th, and I just can't do it. Fortunately I can switch back to 1 MHz mode at will. I can't stress how wonderful that is. On my Amiga, switching between 40 MHz and 7 MHz invokes an absolute mandatory crash. Turbomaster 4 MHz accelerator for the C-64 is the same way. Instant crash.

While I worked on a game called Fastball (which appears on the next LOADSTAR), I noticed that this arcade game worked perfectly in both modes. This program uses interrupt based timing. It was probably written way before the SuperCPU was announced. When you follow rules, you avoid the consequences. My ball wasn't zinging 20 times too fast from left to right.

I would suggest using interrupt-driven sprite moving tools software based timing in BASIC or ML can lead to games that run too fast.

I also accept full credit for the concept of the SuperCPU. I remember suggesting it to CMD way back around 3 years ago when we first discussed them advertising in the LOADSTAR Letter. They said back then that it'd be too expensive and no one would buy it. The fact that LOADSTAR is still here, and that CMD is still here, means that you people out there are indeed buying.

Anatomy continued...

(Continued from page 2)

channels. This is called a fractional T1. After pricing the fractional T1 (2 channels, or 128K) I decided that the whole idea had some possibilities. I set out to discover what was required to create an Internet site from scratch. It turns out that there are only four major components to a site.

1. A computer that acts as our server. 2. A Router to connect our customers to the

server. 3. A DSU/CSU to connect the router to the T1 (and ultimately the Internet). 4. Modems for customers to dial in on.

This took a while to figure out! Now it seems so simple, but back then it was all magic. Each item must be correct, or the whole thing falls apart. I decided on a Pentium 133 MHz computer with 4 GB of hard disk space and 32 Mb RAM. Pretty lame for a server I know, but an OK starter

machine!

I settled on UNIX software. Most of the net runs on UNIX, so why buck the system? Next came the router. This is easily the most complex device I've ever used! It determines the path for network traffic.

Next I had to decide how to connect the modems to the computer. I could install multi-port serial cards in the server. Or, I could combine the modem

(Continued on page 4)

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Decency continued...

broke my own rule and watched an R-rated movie, *Within The Rock*, on the Sci-Fi Channel. Since the Sci-Fi channel shows pasteurized, processed "TV-edited" movies with all the gore, sex and cursing censored, key parts of the movie were gone. Any important exposition that involved an expletive was either riddled with stoppages of sound or just not there. I didn't get to see some key characters expire, and the monster's death was just plain *hacked out*. Essentially they took a bad movie and made it worse.

This is why I never watch a TV-edited silver-screen movie on a network while I *will* watch a movie that was made *for TV*. It's not the lack of vulgarity that I'm missing, it's the *story*! A censored movie is incomplete. A censored Internet will be just as incomplete, confusing and even troubling. Censorship does that to things.

The Smut Bill was another law that included mandatory penalties, taking away the power of judges to decide who should go to jail and for how long. For moments, we had another

mandatory sentence for being non-violently naughty on your computer, but *still* few mandatory sentences for the mayhem we all fear!

So when the Senate debated and passed the smut bill, I said, "Here they go, protecting us from naughty couch potatoes who will *never* harm us."

I've seen the worst that freedom of speech has to offer. Smut is on the net in 16 million colors. The nude photos? Most are illegally scanned from porn magazines, a practice which should be limited by law.

There's mail bombing and vulgar visceral reactions all over. What's a mail bomb? It's when you Email one unfortunate person a barrage of multi-megabyte files, which can ruin *all* mail for *all* people sharing that service.

This is the land of the free. I'm all for freedom, but before we surfers cry foul, maybe we should try acting more responsibly, like we do in the *real* public. The anonymous "nice" PTA-

We have outgrown our present facility and will be moving to a much larger location as of June 1, 1996. I would personally like to thank Commodore users from all over the country for contributing to the success and growth of Centsible Systems.

You can still call us at (318) 687-4613 or call our nationally networked Commodore BBS at (318) 687-0028. To show our appreciation to our loyal Commodore mail order customers, Centsible Systems will run the following specials to celebrate our "Grand Re-opening!"

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 - CMD 270 Hard Drives \$349.00
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attending yuppies who are so vulgar online — the anonymous CEOs and celebrities who, despite copyright laws, upload scanned images to newsgroups, will one day come rue their frenzy of anarchy. A simple search for "Loadstar@softdisk.com" will pop up every post I've made on the net so I'm not going to upload nude pics or post vulgarity! When Internet addresses stick like a social security number (and they *will*), there will be plenty of embarrassed people out there.

Gallup virus: Sixty percent of the PCs infected will lose 30 percent of their data 14 percent of the time (plus or minus a 3.5 percent margin of error).

Government economist virus: Nothing works, but all your economic software says everything is fine.

New World Order virus: Probably harmless, but it makes a lot of people really mad just thinking about it.

Nike virus: Just Does It.

Ellie North virus: Turns your printer into a document shredder.

Pat Buchanan virus: Shifts all your output to the extreme right of your screen.

Paul Revere virus: This revolutionary virus does not horse around. It warns you of impending hard disk attack—end it by LAN, twice if they C.

FSB virus: Your PC stops every few minutes to ask for money.

Politically correct virus: Never calls itself a "virus", but instead refers to itself as an "electronic microorganism".

Anatomy Conclusion

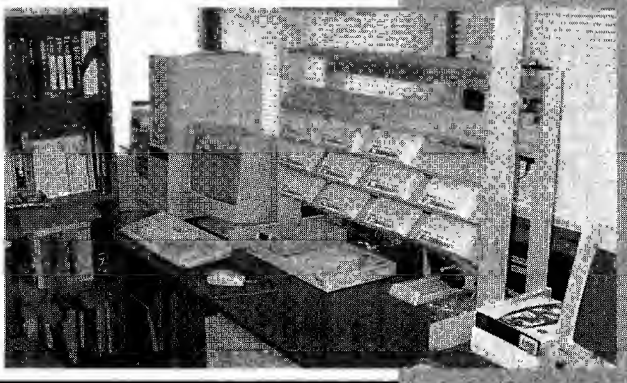
ports with the router (this is typically called an access server). An access server has the advantage of not slowing down your server. But on the down side access servers are pricey. We decided on the access server, and so far I think it was a good choice.

Next we needed modems. Boy they look at you weird at Sam's when you purchase 11 modems! Last but not least were the phone lines. We have 12 lines so far, but the phone

company hedged their bets by installing a 50-line cable to our location. The engineer at said it cost the phone company over \$16,000 to run the cable from town to our site! We should be all set for phone lines for a while....

Finally we're waiting for the feed to appear on our \$600+/month T1. Looks like any day now. Things are busy as you could imagine. Obtaining software to provide your customers merchant

account for credit cards, vendor's license just to name a few.



Right To Life virus:
Won't allow you to
delete a file,
regardless of how old
it is.

Ross Perot virus:
Activates every
component in your
system, just before
the whole thing quits.

Ted Kennedy virus:
Crashes your
computer but denies
it ever happened.

Tom Turner virus:
Colorizes your
monochrome
monitor.

Texas virus: Makes
sure that it's older
than any other file.

UK Parliament virus:
Splits the screen into
two with a message
in each half blaming
the other side for the
state of the system.

**Written Commission
virus:** Won't allow
you to open your files
for 75 years.

**My sister opened a
computer store in
Hawaii. She sells C
shells by the
seashore.**

**A computer program
does what you tell it
to do, not what you
want it to do.**

**A computer scientist
is someone who fixes
things that aren't
broken.**

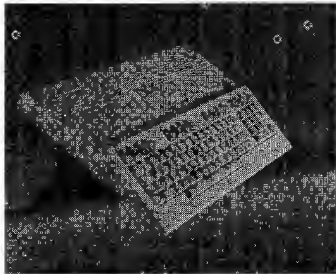
**After a certain
number of decimal
places, nobody gives
a damn.**

**Congratulations! You
are the one-millionth
user to log into our
system.**

**I haven't lost my
mind. It's backed up
on tape somewhere.**

**Shift to the left! Shift
to the right! Pop up,
push down, byte,
byte, byte!**

The Good News Is There's a C-128 Emulator..



The bad news for some is that the emulator runs on a UNIX system, which most PC users don't use, myself included. I ran across a post in comp.emulators.cbm which led me to this web page:

<http://stekt.oulu.fi/~jopi/> and this is what I found. It never ceases to amaze me how sharp the people on the net can be — and these people are on our side. They want to immortalize the Commodore 8-bit line. Whether or not The V.I.C.E. works well, I know I couldn't begin to write a version that works terribly. Here's what they have to say about Vice:

The Versatile Commodore 8-bit Emulator: Highly portable Commodore emulator for U*ix machines with X11 graphics support, written completely in C language.

The one and only versatile CBM emulator! Our warm thanks go to everybody

who has helped us in developing the VICE during these past few years.

VICE is the one and only versatile CBM 8-bit emulator. It provides you with complete emulation of the 6502/6510/7501/8500/8502 CPU as well as Zilog Z80, both with undocumented opcodes and single-step capability.

The 6510 Simulator provided with graphical user interface can even be used not dependent on any specific machine. Easy to use built-in Machine Language Monitor allows one to freeze and save, study, re-run, and debug ML programs on any of the machines emulated. Both extensive documentation and on-line help are provided to support anyone learning or using the 6510 Machine Language.

The documentation is also available separately, and it's worth getting no matter whether you actually use the VICE or some other emulators.

VICE is targeted for C64 enthusiasts and programmers. It's also suitable for the average user of earlier released C64 emulators like C64S, PC64, or X64. Tools are provided to convert files from other emulators' unsupported file formats to the supported ones.

Unlimited number of emulator processes can be run independent of each other on any UNIX or Linux system with

XLib and color palette support. The VICE Release 0.11 features... much higher compatibility (brand new interrupt code by Andre), 2.3 times faster CPU emulation (not for x128), more VIC-II effects supported, important bug fixes (including the keyboard), better VIC-II timing (bad lines, sprite cycles), faster sprite-sprite collisions, direct T64/D64 image handling...

Available soon on your FTP provider. (

More to come... on VICE 0.12

SID support Pop-up menus

Development Information

The VICE is a versatile Commodore emulator for X-Window System on UNIX. It has been successfully tested on Linux with XFree 2.1, SunOS 4.1.2 and 4.1.3 with X11R5 and OpenWindows 3.0, SunOS 5.2, 5.3 and 5.4 with OpenWindows 3.2, Ultrix 4.3, HP-UX 8.0, ConvexOS with X11R5, SCO ODT 3.0, IRIX 5.1.1.2 and even on AIX 2.1 with X11R3. It also compiles on HP-UX and Amiga Linux without major problems.

The VICE distribution files are available on the traditional FTP sites

(ftp.funet.fi, frodo.hiof.no, etc.). See below.

All new ideas, information, documents, bug reports, paths and even new developers are welcome any time. Current sources are available on request.

Email me - jopi@stekt.oulu.fi.
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Note: VICE 64 does NOT run JiffyDOS, or other third-party products.



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List Of Commodore Repair Facilities

I gleaned this from Jim Brain's Comp.SYS.CBM General FAQ on the Internet. This information is maintained by Jim Brain (brain@mail.msen.com). It is composed of information gleaned from articles in the USENET newsgroup comp.sys.cbm, the FidoNET echoes CBM and CBM-128, electronic mail messages, World Wide Web pages, and other mediums. The suppliers listed are assumed to be operating, but none have been confirmed.

A&M Computer Repair
24 Conklin Drive
Stoney Point, NY 10980
(800) 344-4102 (Orders)
(914) 562-7271 (Information)
Fixed repair prices are very low, C64 C128 etc!!

J&C Repair
RD #2, Box 9
Rockton, PA 15856
(814) 583-5996 (Information)
(814) 583-5995 (Facsimile)
Repair all hardware.

Harvey and Associates
1409 Mill Street
Laramie, WY 82070
(307) 742-3275 (Information)
Repairs and service. Inexpensive.

Computer Technologies
121 North Ridgewood Avenue, Suite A
Dartmouth Beach, FL 32114
(800) 237-2835 (Information)
Standard C64/128 repairs.

Kasara Micro Systems
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Bluffton, SC 29910
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(803) 757-7748 (Facsimile)
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Lamar nance (Contact)
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Jim Muir (Contact)
General repair.

Bear Computer Repair Inc.
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Philadelphia, PA 19148
(800) 755-5295
Repair C64, C128, Disk drives etc.

BCE Inc/Commodore Connection
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13914 E. Radcliff Pl.

Auroa, CO 80015
(303) 693-4038
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34 Hillwyck
Toledo, OH 43615
(419) 536-1455 (Information and Orders)
Commodore repair and sales.

Service Management Group
930 Lancaster Avenue Suite 290
Exton, PA 19341

Gordy Wilson's Keyboard Studio
304 North Maple Suite #203
Urbana, IL 61801
(217) 328-3975

Accurate Data Services
North 1414 Fiske
Spokane, WA 99202
(509) 535-0590 (Orders and Information)

Computer Shoppe of Alabama
310 Second Avenue Northwest
Suite C
Cullman, AL 35055
(205) 739-0040

Computer USERS
138 North Fifth
Springfield, OR 97477
(503) 726-8500 (Orders and Information)

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147 West Broadway
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(915) 822-2683 (Orders and Information)

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(914) 624-3200 (Orders and Information)
(914) 624-3239 (Facsimile)

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(201) 385-5586 (Online Store)
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C-Net 128 and C-Net 64 BBS Programs, Shareware, Used SW, CBM HW, CBM repair. They now accept Visa, MasterCard, and American Express Orders.

Microfix
3535 West Pioneer Parkway
Arlington, TX 76013
(817) 261-9615 (Orders and Information)
Repairs PET, C84, C128.

Creative Micro Designs, Incorporated. (CMD)
15 Benton Drive
P.O. Box 646
East Longmeadow, MA 01028-0646
(800) 638-3263 (Orders only)
(413) 525-0023 (Information)
(413) 525-0147 (Facsimile)
cmd-doug@genie.geis.com (Contact)
CMD repairs most Commodore hardware.

COMPUTERSMITH
RR#1 (Hwy 552 E), Goulais River
Ontario, Canada POS 1E0
(705) 649-1251 (Facsimile) (In use at night)
(705) 256-0225 (Cellular Phone)
+ compsmth@age.net (Internet Contact)
+ http://www.onlink.net/community/compsmith.html (WWW)
info@compsmith.soonet.ca (Price List)
custserv@compsmith.soonet.ca (Customer Service)
Service both CBM and Amiga computers.

Virginia Microcomputer Services
14800 Build America Drive

Woodridge, VA 22191
(703) 491-6502 (Information: 10-6 M-F, 10-4 SAT)
(703) 494-0744 (Facsimile)
Brian Colton (Contact)
Commodore 8-bit and Amiga Service

Engineering Consulting
583 Candlewood Street
Brea, CA 92621
Robert Blumenkranz (Contact)
radiobob@earthlink.net (Contact)
http://www.earthlink.net/users/engcon/webdocs/
Refurbishes C64s and 1541s.

+ Skyles Electric Works
+ P.O. Box 1964
+ Cupertino, CA 95015-1984
+ (408) 737-1632 (Orders and Information)
+ Repairs CBM CPUs and disk drives.

The Computer Nut
2400 Mountain Drive
(Shades Mountain Plaza)
Birmingham, AL 35226

+ Software Link, Inc.
+ 190 East Post Road
+ White Plains, NY 10601
+ (914) 683-2512 (Information)
+ Repairs CBM HW.

+ Unique Services
+ 88 Velma Avenue
+ Pittsfield, MA 01201
+ (413) 498-9275 (Orders and Information)

Commodore Country
1420 Country Road 914
Burleson, TX 76028
+ (817) 295-7658 (Information and Orders)
+ (817) 477 9674 (Facsimile)
+ Provide Commodore and Amiga sales and service, and carry new and used
+ software for the C64, C128, and Amiga lines.

+ Video Reflections
+ #1 Court Square
+ West Plains, MO 65775
+ (800) 308-3022 (Information and Orders)
+ jald@townsq.com (Internet Contact)
+ repair and maintenance videos for 1541 and 1571

+ Software Link
+ 190 E. Post Road
+ White Plains, NY 10601
+ (914) 683-2512
+ Repairs, HW, SW

+ Inner Circle Systems
+ John Pinson
+ 3300 Rt. 60 East
+ Huntington, WV 25705
+ (304) 525-0015 (Orders and Information 9-5 EST)
+ (304) 697-0101 (Bulletin Board System)

+ Computer Bargain Store
+ (Reid Swenson, President.)
+ 3366 South 2300 East
+ Salt Lake City, Utah 84109
+ (801) 466-8084 (Orders and Information)
+ (801) 466-9128 (Facsimile)
+ slick_rk@xmission.com (Contact)

+ Computer House
+ 160 King Street West
+ Chatham, Ontario, N7M 1E3
+ Canada
+ (519) 351-9866 (Information, Friday & Saturday 12-6pm)
+ (519) 354-7950 (Facsimile, any time)
+ buys, sells & repairs Commodore hardware & software

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Jim Brain, Embedded System Designer, Brain Innovations, Inc. (BII)(offline sig)
brain@mail.msen.com "Above views DO reflect my employer, since I'm my employer" Dabbling in WWW, Embedded Systems, VR, Old CBM computers, and Good Times! -Me-
Jim Brain: BII, VR, and CBM info

This screen intentionally left blank.

You have to do your backup 16 days ago. Tomorrow you'll need that version.

My sister gave up on Computer Being after she was hood up by two men (one 6 min) and a large

The Queue Principle: The longer you wait in line, the greater the likelihood that you are standing in the wrong line.

The program is absolutely right; therefore the computer must be wrong.

100 times 0.1 is nearly even 1.0

All computers run at the same speed...with the power off.

Any given program will expand to fill available memory.

Any nitwit can understand a computer. Many do. -Ted Nelson

Any program that runs right is obsolete.

Any sufficiently advanced bug is indistinguishable from a feature. -Kurzweil

Artificial Intelligence: Making computers behave like they do in the movies.

Email your jokes to Jeff@Loadstar.com Jokes remain your property.

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HD-40, 40 MB (Limited Supply)	CALL
HD-170, 170 MB (Special Edition)	\$319.00
HD-500, 500+ MB (Special Edition)	\$399.00
HD-1000, 1 GB (Special Edition)	\$499.00
HD-2000, 2 GB (Special Edition)	\$899.00

FD Series 3.5" Floppy Disk Drives

FD-2000 (800K and 1.6 MB)	\$179.95
FD Real-Time-Clock Option/Kit	\$20.00/\$29.00
Box of 10, High Density Disks (1.6 MB)	\$14.95
Box of 10, Enhanced Density Disks (3.2 MB)	\$29.00

JiffyDOS

(Specify computer serial number and drive model)	
JiffyDOS C64/SX-64 System	\$49.95
JiffyDOS C-128/128-D System	\$59.95
Additional Drive ROM's	\$24.95

Miscellaneous Hardware

80-column Monitors (Refurb)	CALL
Action-Replay Cartridge	\$59.95
Aprotek 3-Way User Port Expander	\$30.00
Aprotek User Port Extension Cable	\$19.00
C-64 Computer (Refurb, w/JD)	\$99.00
C-64C Computer (Refurb, w/JD)	\$119.00
C-64, C-64C Power Supply (Repairable)	\$39.00
C-64, C-64C HD Power Supply (Repairable)	\$56.95
C-128 Computer (Refurb, w/JD)	\$179.00
C-128 Computer (Refurb, w/JD, no PS)	\$129.00
C-128 Power Supply (Repairable)	\$56.95
Cannon BJC-4100 Color Bubble Jet Printer	\$399.00
Commodore 1541 Disk Drive (Refurb, w/JD)	\$89.00
Commodore 1541-II Disk Drive (Refurb, w/JD)	\$109.00
Commodore 1571 Disk Drive (Refurb, w/JD)	\$119.00
Commodore 1702 40-column Monitor (Refurb)	\$109.00
Commodore 1802 40-column Monitor (Refurb)	\$139.00
Commodore SX-64 Computer (Refurb, w/JD)	\$199.00
CMD EX2+1 3-Port Cartridge Port Expander	\$34.95
CMD EX3 3-Port Cartridge Port Expander	\$29.95
CMD Gamepad/Joystick Controller	\$24.95
CMD GeoCable II Print Cable 6ft/15ft	\$29.00/\$34.00
CMD SmartMouse (1351 Compatible Mouse)	\$49.95
CMD SmartTrack (1351 Compatible Trackball)	\$69.95
Inkwell Light Pen Model 170C	\$75.00
Monitor Cables	CALL
Mouse Pad	\$2.95
MW-350 Printer Interface (20K/8K Buffer)	\$49.00/\$60.00
Panasonic KXP-1150 9-pin Printer	\$169.00
Panasonic KXP-2023 24-pin Printer	\$229.00
Panasonic KXP-2135 24-pin Color Printer	\$319.00

Utilities

Big Blue Reader V4.10 (SGWAP)	\$39.00
CMD Utilities	\$24.95
JiffyMON-64 (ML Monitor)	\$19.95
The Compression Kit '94 (Mad Man)	\$39.00

GEOS

Collette Utilities (Handy Geos Utilities)	\$19.95
Desk Pack Plus	\$29.00
Dweezle's Greatest Hits (NewTools2, Stamp, Label128)	\$30.00
FONTPACK Plus	\$25.00
geteWay 64 or 128 (Specify Version)	\$29.95
geoBASIC	\$20.00
geoCalc 64/128	\$40.00/\$45.00
geoChart	\$29.00
geoFAX	\$39.95
geoFile 64/128	\$40.00/\$45.00
geoMakeBoot (Makes Bootable copies)	\$12.95
geoProgrammer	\$45.00
geoPublish	\$40.00
GEOS 64 v2.0	\$44.00
GEOS 128 v2.0	\$49.00
geoSHELL V2.2 (CLI for GEOS)	\$24.95
International FONTPACK	\$25.00
Perfect Print LQ for GEOS (Laser-like output)	\$49.95
RUN GEOS Companion	\$20.00
RUN GEOS Power Pak I or II (Specify)	\$20.00

Books

Anatomy of the 1541	\$12.00
C-64 Science & Engineering	\$12.00
C128 Computer Aided Design	\$12.00
C128 BASIC Training Guide	\$12.00
Commodore 64 Tricks and Tips	\$12.00
GEOS Programmers Reference Guide	\$35.00
Graphics Book for the C-64	\$12.00
Hitchhiker's Guide to GEOS	\$35.00
Ideas for Use on Your C-64	\$12.00
Printer Book for the C64	\$12.00
Mapping the C64	\$12.00
Simple Internet	\$16.95

Scanning & Video

Handyscanner	\$249.00
Pagefox	\$139.00
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Videofox	\$89.00

RAMLink Power-Backed RAM Disk

RAMLink Base Model (2MB, No RAMCard)	\$149.00
RAMLink w/1 MB RAMCard (Special)	\$199.00
RAMLink w/4 MB RAMCard (Special)	\$299.00
RAMCard RTC Option/Kit	\$10.00/\$19.00
RAMLink Battery Back-up (Optional)	\$24.95
Parallel Cable (RAMLink to HD)	\$14.95

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Digimaster	\$34.95
SIO Symphony Stereo Cartridge	\$44.95
Sonus 64 Sequencer, MIDI Interface, Cables	\$99.00
Sonus 128 Sequencer, MIDI Interface, Cables	\$99.00

Languages & Compilers

BASIC 64 Compiler (Abacus)	\$17.00
BASIC 128 Compiler (Abacus)	\$25.00
Blitz 64 Compiler (Skyles)	\$30.00
Blitz 128 Compiler (Skyles)	\$30.00
Buddy 64/128 Assembler	\$39.00
Cobol 64 (Abacus)	\$17.00
Fortran 64 (Abacus)	\$17.00
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Productivity

Cedpak 64 (Abacus)	\$22.00
Cadpak 128 (Abacus)	\$25.00
Chertpak 64 (Abacus)	\$17.00
Chertpak 128 (Abacus)	\$25.00
Data Manager 64 (Timeworks)	\$16.00
1 Paint v1.5 (128, 80-col., 64K VDC) (Living Proof)	\$39.00
1 Port v1.54 (128, 80-col., 64K VDC) (Living Proof)	\$29.00
Personal Portfolio Manager (Abacus)	\$16.00
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Pocket Writer 2 (64/128) (Digital Sol.)	\$65.00
Pocket Writer 3 (64 or 128) (Digital Sol.)	\$70.00
Pocket Planner 2 or Pocket Filer 2 (Digital Sol.)	\$35.00
RUN Productivity Pak I, II, or III (Specify)	\$15.00
RUN Super Starter Pak 1541 or 1581	\$20.00
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SEC Check Register 128	\$29.00
SuperScript 64 (Precision)	\$15.00
SuperScript 128 (Precision)	\$20.00
Subabase 64 Version 3.01 (Precision)	\$35.00
Subabase 128 Version 3.01 (Precision)	\$35.00
SwiftCalc 64 (Timeworks)	\$16.00
TWS 64 w/Speller (Busy Bee)	\$29.00
TWS 128 w/Speller (Busy Bee)	\$39.00
TWS Modules (HD/RL/Illustrator)	each \$5.00

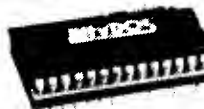
Telecommunications

Aprotek MiniModem C-24 (C= ready, 2400 baud)	\$69.00
Aprotek MiniModem C (C= ready, 1200 baud)	\$50.00
Aprotek Com-Modem Adapter (for ext. modem)	\$19.00
Aprotek Com-Modem Adapter Cable	\$9.95
BOCA 2400 Baud Modem	\$69.00
BOCA 2400 w/SwiftLink and Cable	\$99.00
BOCA 14.4K bps FaxModem	\$129.00
BOCA 14.4K w/SwiftLink & Cable	\$159.00
BOCA V.34 28.8K bps FaxModem	\$199.00
BOCA V.34 w/SwiftLink & Cable	\$229.00
Commodore 1670 Modem (1200 baud)	\$14.95
Dialogue 128	\$29.00
SwiftLink RS-232C Cartridge (Up to 38.4K baud)	\$39.95
SwiftLink Modem Cable (DB9-DB25)	\$9.95

Games

Atomino	\$17.00
Ballistix	\$13.00
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Chompl	\$10.00
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RUN C128 Funpak	\$10.00
RUN C64 Gemepak	\$10.00
Skate or Die	\$13.00
Slateman	\$14.95
The Amazing Spider-Man	\$15.00
The President Is Missing	\$10.00
The Three Stooges	\$10.00
Tie Break Tennis	\$16.00
Total Eclipse	\$10.00
Ultima V	\$17.00
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Wings of Circe	\$19.00
Wizardry 5: Heart of the Meelstrom	\$24.00

CMD Repairs Computers & Drives!



JiffyDOS

Increase Speed Up to 1500% while retaining 100% compatibility

- Speeds up Loading, Saving, Verifying, Formatting and Reading/ Writing of Program, Sequential, User and Relative files unlike cartridges which only speed up Loading and Saving of PRG files
- Built-in DOS Wedge plus 17 additional features including file copier, text dump, printer toggle, and redefinable function keys make using your computer easier and more convenient
- ROM upgrade installs easily into most computers and disk drives. Supports C-64, 64C, SX-64, C-128, 128-D, 1541, 1541C, 1541-II, 1571, 1581 and more.

FD Series

1.6 MB 3.5" Floppy Drives

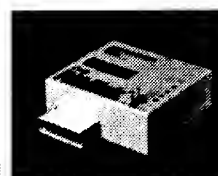
The FD-2000 disk drives utilize today's latest 3.5 inch disk drive technology. FD-2000's support 800K (1581 style) and 1.6 MB (High Density) formats. Fast and reliable, they support 1541, 1571 and 1581 style partitions, Native Mode partitioning and can actually read and write 1581 disks. FD's feature built-in JiffyDOS, SWAP button and optional Real-Time Clock. High capacity, speed and compatibility make the FD right for every application, including GEOS.



RAMLink

Power-Backed Expandable REU

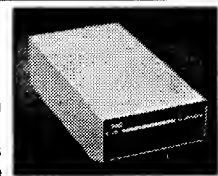
The fastest possible form of storage, RAMLink provides instant access to files and retains data while your computer is turned off. Easy to use and expandable up to 16 MB, RAMLink utilizes the same powerful operating system found in CMD Hard Drives. Unlike Commodore REU's which are compatible with less than 1% of commercial software, RAMLink supports more than 80% of the commercial titles. RAMLink also offers built-in JiffyDOS Kernel, SWAP feature, reset button, enable/disable switch, pass-thru port and RAM port for REU/GEORAM use. RAMLink offers maximum speed, expandability and compatibility with all types of software and hardware including GEOS.



HD Series

SCSI Hard Drive for the C-64/128

HD Series Hard Drives are available in capacities up to 1 GB, are fully partitionable, and can emulate 1541, 1571, & 1581 disks while Native partitions utilize MS-DOS-style subdirectories. HD's connect easily to the serial bus or parallel via RAMLink. Includes built-in JiffyDOS, SWAP feature and RTC. HD's offer superior compatibility with most commercial software including BBS, Productivity and GEOS. And with new pricing, HD Series drives offer the lowest cost per megabyte of any C64/128 storage device.



Shipping and Handling Charges

Use the chart below to match your order subtotal with your shipping zone and method

Order Subtotal	Continental United States					
	UPS Ground	2nd Day	Next Day	AK HI, PR	Canada	Foreign
\$0.01 to \$19.99	\$4.50	\$13.00	CALL	\$15.00	\$5.00	CALL
\$20.00 to \$29.99	\$5.50	\$17.00	CALL	\$17.00	\$7.00	CALL
\$30.00 to \$59.99	\$6.50	\$19.00	CALL	\$19.00	\$9.00	CALL
\$60.00 to \$149.99	\$7.50	\$21.00	CALL	\$28.00	\$12.00	CALL
\$150.00 to \$299.99	\$10.00	\$25.00	CALL	\$35.00	\$20.00	CALL
\$300.00 to \$799.99	\$15.00	\$29.00	CALL	\$40.00	\$25.00	CALL
\$800.00 and up	\$20.00	CALL	CALL	\$50.00	\$39.50	CALL

UPS C.O.D. add \$5.00 (US/PR only)

Policies: CMD accepts: Major Credit Cards, Money Orders, COD and Personal Checks. Personal Checks are held 3 weeks. Customer is responsible for shipping charges on refusals. Most items are stock, contact CMD for firm delivery. Returns for merchandise credit only within 30 days with prior authorization. Credits are less shipping, handling, taxes, customs, duties, and e 10% restocking charge. No refunds or credits on opened software. All prices and specifications are subject to change without notice.